**Docket No. R.307421** 

Preliminary Amdt.

**AMENDMENTS TO THE CLAIMS:** 

This listing of claims will replace all prior versions, and listings, of claims in the

application:

**Listing of Claims:** 

Claims 1-19. (Canceled)

20. (New) In a unit fuel injector for an internal combustion engine, the injector having

a pump element with a pump chamber, and a magnet valve having a valve member, a coil,

and an armature the, magnet valve opening or closing a hydraulic connection between the

pump chamber and a low-pressure region the improvement wherein the armature is fixedly

connected to the valve member.

21. (New) The unit fuel injector as defined by claim 20, further comprising a receiving

mandrel embodied on the valve member, the armature being fixedly connected to the

receiving mandrel.

22. (New) The unit fuel injector as defined by claim 21, wherein the armature is connected

to the receiving mandrel by nonpositive engagement, in particular by pressing.

23. (New) The unit fuel injector as defined by claim 22, further comprising a sealing face

and a stroke stop embodied on the valve member, that the maximum stroke of the valve

Page 7 of 14

Docket No. R.307421 Preliminary Amdt.

member being defined by the spacing in the axial direction between the sealing face and the stroke stop.

24. (New) The unit fuel injector as defined by claim 21, wherein the sealing face is embodied frustoconically.

25. (New) The unit fuel injector as defined by claim 23, further comprising a magnet plate between the armature and the stroke stop and cooperating with the coil of the magnet valve and the stroke stop, the receiving mandrel of the valve member protruding through a bore in the magnet plate.

26. (New) The unit fuel injector as defined by claim 25, further comprising a spacer plate provided between the stroke stop and the magnet plate, the receiving mandrel of the valve member protruding through a hole in the spacer plate.

27. (New) The unit fuel injector as defined by claim 20, wherein the armature encapsulated so that fuel located in the magnet valve cannot reach the magnet valve coil surrounding the armature.

28. (New) The unit fuel injector as defined by claim 26, further comprising a capsule surrounding the armature, a spacer ring of a nonmagnetic stainless steel between the capsule

Docket No. R.307421 Preliminary Amdt.

and the magnet plate, the capsule, spacer ring, and magnet plate being connected in sealing fashion to one another.

- 29. (New) The unit fuel injector as defined by claim 9, wherein the capsule, spacer ring and magnet plate are welded or soldered to one another.
- 30. (New) The unit fuel injector as defined by claim 21, wherein the valve member is guided at at least one point in a housing.
- 31. (New) The unit fuel injector as defined by claim 20, further comprising a compression spring lifting the valve member from a valve seat when the coil has been switched to be currentless.
- 32. (New) The unit fuel injector as defined by claim 31, wherein the compression spring is braced on one end against the valve member and on the other against an adjusting disk.
- 33. (New) The unit fuel injector as defined by claim 32, wherein the adjusting disk is replaceable.
- 34. (New) A method for installing a magnet valve with an armature and a valve member including a receiving mandrel into a housing, the method comprising following method steps:

Docket No. R.307421 Preliminary Amdt.

locking the valve member in a receptacle of a fixed installation device;

mounting the magnet plate and a spacer plate on the receiving mandrel of the valve member;

pressing the magnet plate, spacer plate and valve member against the receptacle;

displacing the magnet plate and the spacer plate by a predetermined amount relative to

the valve member;

connecting the armature and the receiving mandrel, so that the armature rests on the

magnet plate.

35. (New) The method as defined by claim 34, wherein the predetermined amount is

equivalent to the sum of the valve stroke and a remanent air gap between the armature and the

magnet plate.

36. (New) The method as defined by claim 34, further comprising placing a spacer ring and

a capsule onto the magnet plate and tightly weld the spacer ring, capsule and magnetic plate

to one another.

37. (New) The method as defined by claim 35, further comprising placing a spacer ring and

a capsule onto the magnet plate and tightly weld the spacer ring, capsule and magnetic plate

to one another.

Page 10 of 14

Docket No. R.307421 Preliminary Amdt.

38. (New) The method as defined by claim 34, wherein the valve is mounted in a housing by inserting the compression spring and the valve member into the housing, triggering the coil of the magnet valve with a current that is selected such that the magnetic force exerted on the armature is greater than the spring force that is exerted by the compression spring on the valve member; recording the spring force, exerted on the valve member by the compression spring, as a function of the position of the valve member in the housing; evaluating the recorded spring force and travel graph; and as needed, correcting the force exerted by the compression spring by inserting an adjusting plate bearing on the compression spring.

39. (New) The method as defined by claim 38, wherein, once the initial force of the compression spring has been corrected, function monitoring is performed, and if needed, another correction of the thickness of the adjusting plate is made.

Docket No. R.307421 Preliminary Amdt.

## **NEW ABSTRACT:**

Please replace the original abstract with the following new abstract:

Abstract of the Disclosure

A unit fuel injector is presented in which a valve member and an armature of a magnet valve are fixedly joined together, so that the dynamic performance of the magnet valve is improved, and the adjustment and calibration of the magnet valve are also simplified.

Docket No. R.307421 Preliminary Amdt.

## **AMENDMENTS TO THE DRAWINGS:**

The attached sheet of drawings includes changes to Figure 3. In Figure 3, reference number 25 is changed to 55.

Attachment: Replacement Sheet

Annotated Sheet Showing Changes